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Appl. No. : 09/930,612
Applicant : Ian C. Williams
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TC/AU : 2137
Examiner : Jeffrey D. Popham

Docket No. : 008A.0001.U1(US)
Customer No. : 29683

Title : Apparatus, System and Method for Enhancing Data Security

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S REPLY BRIEF

Sir:

Appellant (herein, Applicant) hereby submits this Reply Brief to the Board of Patent Appeals and Interferences (hereinafter, the Board) under 37 C.F.R. §41.34 and in response to an Examiner's Answer dated June 23, 2006. This Reply Brief is filed within the two month period for response to the Examiner's Answer. If there are any deficiencies in payment, please charge deposit account no.: 50-1924 for any deficiency.

STATUS OF CLAIMS

Claims 1, 102-119, 125-161, 175-178, and 180-186 stand finally rejected and are pending in this appeal. Claims 2-101, 120-124, 162-174 and 179 are canceled. Claims 1, 102-119, 125-161, 175-178, and 180-186 are reproduced, along with indications of canceled claims, in an Appendix accompanying this Brief as the claims stood subsequent to an Advisory Action dated January 31, 2006.

ARGUMENT

Applicant respectfully submits that the arguments given in the previous Appeal Brief remain valid. The arguments presented herein are merely supplemental to the arguments in the Appeal Brief and further address what appear to be new arguments made by the Examiner in the Examiner's Answer. Applicant will address certain of the arguments given by the Examiner in the following manner. First, Applicant will describe structural differences between claimed subject matter and the cited reference, Raanan et al., U.S. Patent No. 6,311,278 (hereinafter, Raanan), where the structural differences amount to at least one missing element of the independent claims and therefore the independent claims are not anticipated by the cited reference. Second, Applicant will address a particular point of contention between the Examiner's arguments and the Applicant's arguments. Finally, Applicant will make additional comments.

In the Examiner's Answer, the Examiner cites Raanan as disclosing the subject matter of claim 1. See Examiner's Answer, page 4. In particular, the Examiner cites FIG. 2A and col. 5, lines 10-29 of Raanan. See Examiner's Answer, page 25. However, Applicant will show that the structure of the subject matter of the independent claims is different from the structure of Raanan and in particular FIG. 2A of Raanan.

Independent claim 1 is representative and recites the following:

A data processing system, comprising:

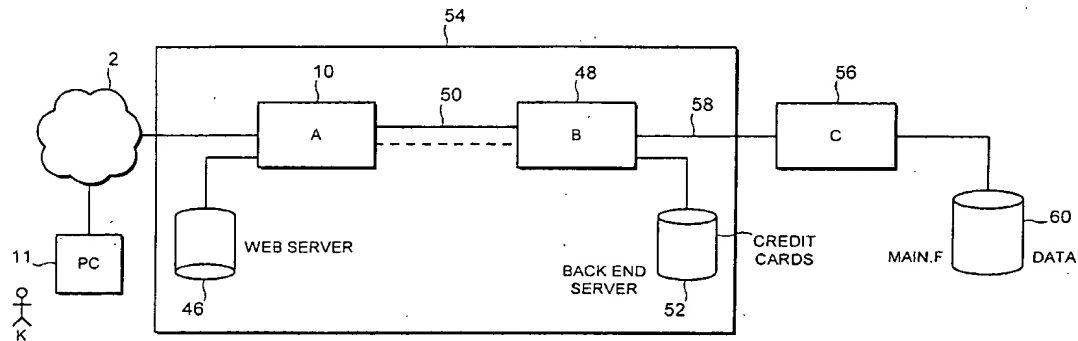
a first processing resource in the form of a web server coupleable to an open communications network; and

a second processing resource in the form of a back end server coupleable to said first processing resource;

said first processing resource and said second processing resource being configured to establish a communications relationship between them through a non-network connected communications channel,

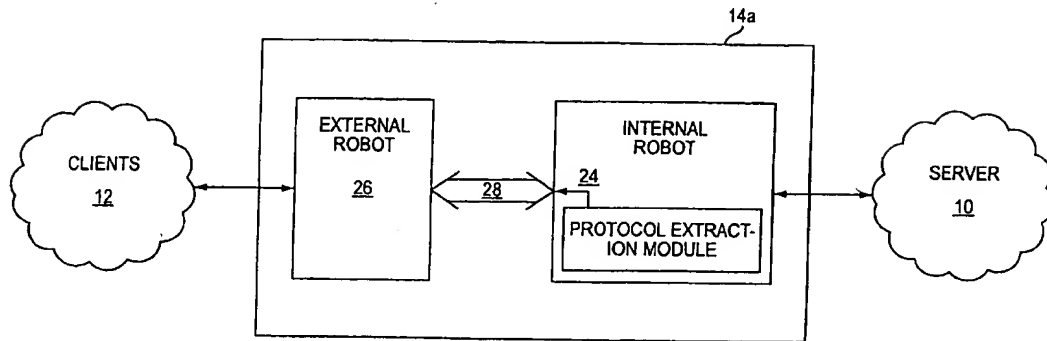
whereby said second processing resource is restricted to implementing an instruction communicated from said first processing resource which only performs a predetermined allowable operation, thereby inhibiting compromise of said second processing resource.

The subject matter of claim 1 can be diagrammed, in one exemplary embodiment, as shown by the following portion of FIG. 3 of Applicant's specification, reproduced here for convenience.



As can be seen in this portion of FIG. 3 of Applicant's specification, the web server 10 is coupleable to the open communications network 2 and is coupled to the back end server 48 through the non-network connected communications channel 50. Clients, such as PC 11, contact the web server 10. It is the web server 10 that contacts the back end server 48 through the non-network connected communications channel 50.

FIG. 2A of Raanan is reproduced below:



Raanan specifically states that the “client then transmits a request *directed to the server*”.

Raanan, col. 5, line 10. It is clear in Raanan that it is the server 10 that responds to requests from clients 12. See Raanan at col. 2, lines 52-54 (“The method involves receiving a message from a server before it is sent or in parallel with sending to a client.”).

It is also clear in FIG. 2A of Raanan that the filter module 14a is interposed between the clients 12 and the server 10. See also Raanan, FIGS. 1 and 2, and col. 2, lines 1-2.

Independent claim 1 recites subject matter directed to a *web server* and a *back end server* configured to establish a communications relationship between them through a non-network connected communications channel. By contrast, it is clear in Raanan that only a single “server” (server 10) is shown.

The Examiner asserts that the gateway/filter module 14/14a in Raanan meets the subject matter of “a first processing resource in the form of a *web server* coupleable to an open communications network”. However, the filter module 14/14a is not “[a] computer or software package that sends requested information to a client or clients in a network”. McGraw Hill Dictionary of Scientific and Technical Terms at page 1905 (6th Ed. 2002). Instead, it is server 10 in Raanan that sends requested information to the client 12, as the server 10 is operating to respond to requests (directed to the server 10)

from the client 12. Furthermore, the element 14a in Raanan is also referred to as a "gateway". See Raanan, col. 4, line 10 (As shown in FIG. 2A, the gateway 14a"). A gateway is "[a] point of entry and exit to another system, such as the connection point between a local-area network and an external-communications network". McGraw Hill Dictionary at 884.

Consequently, the structure is different between the apparatus in Raanan and the claimed subject matter in independent claim 1. These structural differences amount to at least one missing element of the independent claims, as Applicant recites "a first processing resource in the form of a *web server* coupleable to an open communications network" and "a second processing resource in the form of a *back end server* coupleable to said first processing resource" and Raanan only discloses one entity (i.e., server 10) that would apparently qualify as a "server". Thus, one of the web server or back end server is not disclosed in Raanan. According to the Examiner's argument, the server 10 qualifies (which Applicant does not admit) as a *back end server*. Assuming for sake of argument that this qualification is true, the *web server* of claim 1 is not disclosed in Raanan as the gateway/filter module 14/14a has been shown not to be a server. The Examiner is respectfully reminded that for a rejection to be made on the basis of anticipation, it is well recognized that "to constitute an anticipation, all material elements recited in a claim must be found in one unit of prior art", Ex Parte Gould, BPAI, 6 USPQ 2d, 1680, 1682 (1987), citing with approval In re Marshall, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978). For at least this reason, claim 1 is patentable over Raanan.

It is noted that the Examiner cited col. 5, lines 10-29 of Raanan in the Examiner's Answer (see page 25). It is believed that this is the first citation by the Examiner of this particular section of Raanan. This section of Raanan is not detailed

about operation of the “robots” 24 and 26. However, Raanan states that “the filter module 14 consists of two or more components as described in application Ser. No. 09/149,911” (Raanan, col. 4, lines 6-9). Applicant determined that Ser. No. 09/149,911 has issued as Reshef et al., U.S. Patent No. 6,321,337 (hereinafter, Reshef), a copy of which is enclosed for the convenience of the Examiner. Applicant has reviewed Reshef in order to attempt to determine detail missing in Raanan. After review, Applicant believes that Reshef also does not disclose at least one of the servers recited in independent claim 1. FIG. 1a of Reshef is shown below.

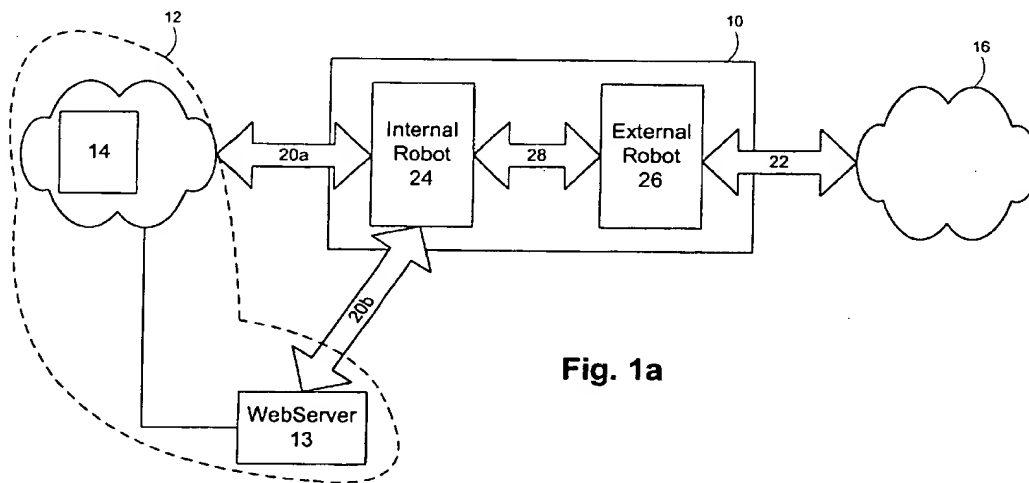


Fig. 1a

In FIG. 1a of Reshef, clients exist in the external computing environment 16. The web server 13 and internal system server 14 exist in the internal computing environment 12.

“[A] network security gateway 10 is connected between an internal computing environment 12 and an external computing environment 16.” Reshef, col. 6, lines 44-46.

As with Raanan, Reshef does not disclose one of “a first processing resource in the form of a *web server* coupleable to an open communications network” and “a second processing resource in the form of a *back end server* coupleable to said first processing resource”.

This is true because one web server 13 is shown and the gateway 10 is not a web server.

Consequently, the back end server is not disclosed in Reshef, in particular because there is no back end server such that the first processing resource in the form of a web server and the second processing resource in the form of a back end server are configured to establish a communications relationship between them through a non-network connected communications channel (as recited generally in independent claim 1). Therefore, independent claim 1 is patentable over Reshef.

As each of the other independent claims 125, 135, 140, 175, and 180 recite generally two processing resources in the form of a web server and back end server that are configured to establish a communications relationship between them through a non-network connected communications channel, these independent claims are patentable over Raanan (or Reshef). As independent claims 1, 125, 135, 140, 175, and 180 are patentable, their respective dependent claims 1, 102-119, 126-134, 136-139, 141-161, 176-178, and 181-186 are also patentable for at least the reasons given above with respect to claim 1.

As noted above, Applicant also herein addresses a point of contention between the Examiner's arguments and the Appellant's argument, which is whether Raanan discloses "said first processing resource and said second processing resource being configured to establish a communications relationship between them through *a non-network connected communications channel*" as recited for instance in independent claim 1.

Applicant states the following in the specification:

In a preferred embodiment of the invention, a dedicated communications channel 50 is disposed between web server 10 and backend server 48 for communicating messages between the web server 10

and backend server 48. Preferably, communications channel 50 is a non-network connected communications channel. In the present example, the dedicated communications channel 50 is a serial line, but may be a parallel connection. The communications channel 50 may comprise a twisted pair, optical fibre or wireless link, for example, and other suitable communications channels may be provided.

Applicant's Specification, page 16, lines 2-9.

The Examiner uses the above material to assert the following:

From this example, it is clear that the non-network connected communications channel is any suitable form of communications channel. Stating that it is non-network connected refers only to the fact that it is not directly connected to and accessible by the open communications network (the only claimed network).

Examiner's Answer, page 25. It is believed that the term "it" in the last sentence refers to a communications channel. The Examiner then proceeds to assert that "Raanan discloses a non-network connected communications channel as claimed" because every communication between the server 10 and the "open communication network" (i.e., clients 12) in Raanan must pass through gateway 14a, which has external robot 26 and internal robot 24 that are connected using a dedicated, secure communication bus 28.

However, as described above, the gateway 14a is not "a first processing resource in the form of a *web server* coupleable to an open communications network". Therefore, even if the "dedicated, secure communication bus 28" is "a non-network connected communications channel" (which Applicant does not admit), the subject matter of "said first processing resource and said second processing resource being configured to establish a communications relationship between them through a non-network connected communications channel" is not disclosed by Raanan, as there is no "a first processing resource in the form of a *web server* coupleable to an open communications network" and "a second processing resource in the form of a *back end server* coupleable to said first processing resource" disclosed in Raanan. A similar argument can be made regarding

Reshef, as although Reshef does show a web server 13 in FIG. 1a, Reshef does not disclose "a second processing resource in the form of a **back end server** coupleable to said first processing resource", where "said first processing resource and said second processing resource being configured to establish a communications relationship between them through a non-network connected communications channel". This is true at least because the gateway 10 in FIG. 1a of Reshef is not a back end server.

It is believed that the preceding arguments render all pending claims patentable over the cited references. However, Applicant would like to make the following additional comments.

In exemplary embodiments of the disclosed invention, the back end server will only accept a command it has been programmed to recognize as valid. The validity is determined by simple rules which can be reliability implemented. An attempt to pass general network traffic and to explore all the boundary conditions of a network protocol in order to compromise the second resource will fail.

In another exemplary embodiment, no unauthorized commands are possible and no filtering devices, no protocol databases, and no dynamic handling are required, unlike in Raanan.

On page 26, the Examiner makes an argument regarding HTTP. The Examiner asserts that the Applicant argues that since Raanan can transfer TCP/IP and HTTP data to/from the server, Raanan discloses only a network connection based system. It is believed that the system in Raanan is network-based at least insofar as clients and servers are concerned. It is noted that Raanan has a relatively poor description of the communication that occurs between the gateway, server, and clients. However, Reshef has a better description. In step 51 of FIG. 3b of Reshef, it is apparent that communication

between a client and external robot 26 (of the gateway 10; see Reshef FIG. 1a) is TCP/IP based. Furthermore, the communication between the internal robot 24 and the web server 13 is also TCP based, as indicated by steps 92 and 102 in FIG. 3a of Reshef. Therefore, it appears that all communication outside the gateway 10 in Reshef is network-based.

It is noted that the present application describes HTTP as a useful and common format of web pages. The defined and allowed list of commands in the disclosed invention may use HTTP as a way of formatting the pages. It is clear that this concerns format and files, and does not concern the "protocol HTTP". In contrast to Reshef (and Raanan), the disclosed invention does NOT support an internet-connected client making an HTTP/TCP request to the back end server. This is an important point of the invention, which is that the first processing resource (e.g., web server) can only make a specific set of requests to the second processing resource (e.g., back end server) and even if the first processing resource is compromised, there is no network protocol used in order to connect to the second processing resource. Hence, in an exemplary embodiment of the disclosed invention such as in independent claim 1, no network-protocol-based attacks should be possible.

At the bottom of page 26 and the top of page 27, the Examiner asserts that Applicant's argument regarding how clients direct requests to server and the server directs responses back to the client in Raanan is immaterial to the claims. Applicant respectfully disagrees. Applicant's arguments regarding that clients direct requests to server and that the server directs responses back to the client is used to show that the server and client in Raanan are on a network. After all, if a client 12 can direct a request to a server 10 in Raanan and the server 10 can respond to this request, the client 12 and server 10 seem to be on a network. Furthermore, the direction of requests by the client 10 to the server 10 is

in contradistinction to what occurs in claim 1: in independent claim 1, a client would direct a request to the first processing resource that is in the form of a web server, and NOT to the second processing resource (which the Examiner argues is the server 10 in Raanan). ONLY the first processing resource in the form of a web server can direct information to the second processing resource in the form of a back end server, whereas in Raanan a client 12 directs requests to the server 10 and the requests pass through the gateway/filter module 14/14a. Therefore, Raanan does not disclose "a first processing resource in the form of a web server coupleable to an open communications network" and "a second processing resource in the form of a back end server coupleable to said first processing resource". The operation of clients and servers in Raanan is used to distinguish the claims of the disclosed invention over the structure and operation of the system in Raanan, regardless of whether the claims recite a "client".

Regarding Issue B, Claims 106, 136, and 145 stand rejected as being obvious under 35 U.S.C. §103(a) Raanan in view of Piccioni, U.S. Patent No. 6,842,774 (hereinafter, Piccioni). Claim 106 recites "A data processing system according to claim 103, said second processing resource being configured to transmit an instruction fail message to said first processing resource responsive to said second processing resource determining said instruction failing to satisfy said predetermined criterion." The Examiner cites col. 6, lines 8-30 of Piccioni for purported disclosure of this subject matter. The cited text of Piccioni states the following:

Communications server 34 may handle access to events 40 by clients 20 over networks 14 and 18. More specifically, the web server portion of server 34 may receive requests to view web pages associated with events 40 from clients 20. Server 34 examines the requests and determines if the subscriber associated with the request may access the requested web page based on profile 46 and the access levels associated with the event 40. Server 34 may then reply to the subscriber with the requested web page with the subscriber has access to the page, a portion of

the requested web page when the subscriber has partial access to the web page or a *failure message* when the subscriber has no access to the requested web page. For example, a member of the media using either a custom profile 46 for the particular member or a generic "media" profile 46 may be allowed to access date, location information, and certain details associated with kidnapping events 40, but not other details such as the current location of the suspect. This selective access prevents the suspect from using this information against the police. In one embodiment, server 34 may generate web pages associated with events 40 such that all information associated with events 40 is available for unrestricted public access on the web site.

Piccioni, col. 6, lines 30 (emphasis added). Applicant's disclosed invention is directed at least in part to preventing instructions from being executed on a server and is not directly related to a subscriber having no access to a requested web page. Moreover, in Piccioni, the failure message appears to be transmitted from a server to a subscriber, which appears to be similar to a client 12 in Raanan. By contrast, independent claim 106 has an instruction fail message transmitted from a second processing resource in the form of a back end server to the first processing resource in the form of a web server; any clients correspond with the web server and not the back end server.


Applicant respectfully submits that Piccioni does not disclose the subject matter of claim 106. Consequently, claim 106 is patentable over the combination of Raanan and Piccioni. Because claims 136 and 145 have similar subject matter, these claims are also patentable over the combination of Raanan and Piccioni.

CONCLUSION

For at least the above reasons, the Applicant/Appellant contends that claims 1, 102-119, 125-161, 175-178, and 180-186 are patentable over the respective cited art. The Applicant/Appellant respectfully requests the Board reverse the final rejection in the Office Action of October 12, 2005 and the Advisory Action of January 31, 2006, and further that the Board rule that the pending claims are patentable over the cited art.

Respectfully submitted:

HARRINGTON & SMITH, LLP

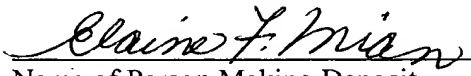


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8/23/06
Date

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(8) CLAIMS APPENDIX

1. A data processing system, comprising:

a first processing resource in the form of a web server coupleable to an open communications network; and

a second processing resource in the form of a back end server coupleable to said first processing resource;

said first processing resource and said second processing resource being configured to establish a communications relationship between them through a non-network connected communications channel, whereby said second processing resource is restricted to implementing an instruction communicated from said first processing resource which only performs a predetermined allowable operation, thereby inhibiting compromise of said second processing resource.

2-101. Canceled

102. A data processing system as in claim 1, where said first processing resource is configured to transmit said instruction to said second processing resource for said instruction satisfying a predetermined criterion.

103. A data processing system as in claim 1, where said first processing resource is configured to transmit said instruction to said second processing resource and where said second processing resource is configured to execute said instruction for said instruction satisfying a predetermined criterion.

104. A data processing system according to claim 103, said predetermined criterion comprising said instruction being included in a predefined set of allowable instructions for said second processing resource.

105. A data processing system according to claim 102, said predetermined criterion comprising said instruction being identified as an allowable instruction for said second processing resource.

106. A data processing system according to claim 103, said second processing resource being configured to transmit an instruction fail message to said first processing resource responsive to said second processing resource determining said instruction failing to satisfy said predetermined criterion.

107. A data processing system according to claim 1, said second processing resource comprising a database of executable instructions defining predetermined allowable functionality of said second processing resource.

108. A data processing system according to claim 1, said instruction comprising a computer program procedure name.

109. A data processing system according to claim 102, said second processing resource configured to provide a reply message to said first processing resource responsive to an instruction satisfying said predetermined criterion.

110. A data processing system according to claim 1, said first processing resource comprising a storage medium configured to store said instruction in a queue prior to transmission to said second processing resource.

111. A data processing system according to claim 1, said instruction being comprised in a message for transmission to said second processing resource.

112. A data processing system according to claim 111, said first processing resource comprising a storage medium configured to store said message in a queue prior to transmission to said second processing resource.

113. A data processing system according to claim 111, wherein said message includes an instruction type and said first processing resource configured to include in said message an action code indicative of the instruction type.

114. A data processing system according to claim 111, said first processing resource comprising a storage medium configured to store said message prior to transmission to said second processing resource, said message including an instruction type, said first processing resource being further configured to include in said message an action code indicative of the instruction type, and said first processing resource configured to store said message in accordance with a priority assigned to said action code.

115. A data processing system according to claim 111, said first processing resource comprising a storage medium configured to store said message prior to transmission to said second processing resource, said first processing resource configured to store messages in accordance with their chronological order.

116. A data processing system according to claim 114, said first processing resource being configured to select a stored message for transmission to said second processing resource in accordance with a priority determined by said action code of said message.

117. A data processing system according to claim 1, said first processing resource configured to transmit said instruction or a message including said instruction responsive

to receiving a communication comprising sensitive information and to discard said sensitive information from said first processing resource.

118. A data processing system according to claim 117, said message representing sensitive information derived from said communication.

119. A data processing system according to claim 117, wherein said sensitive information is discarded in response to transmission of said message comprising sensitive information to said second processing resource.

120-124. (Canceled)

125. A data processing apparatus, comprising:

a first processing resource in the form of a web server coupleable to an open communications network and to a non-network connected communications channel; said first processing resource being configured to transmit an instruction to a second processing resource in the form of a back end server disposed in a non-open network coupled data processing apparatus responsive to receiving a communication via said communications channel and for said instruction satisfying a predetermined criterion.

126. A data processing apparatus according to claim 125, further comprising a storage medium to store said instruction in a queue prior to transmission to said second processing resource.

127. A data processing apparatus according to claim 125, wherein said first processing resource is configured to form a message including said instruction for transmission to said second processing resource.

128. A data processing apparatus according to claim 127, wherein said message includes an instruction type and wherein said first processing resource is configured to include in said message an action code indicative of an instruction type.

129. A data processing apparatus according to claim 128, wherein said first processing resource is configured to store messages in accordance with a priority assigned to said action code.

130. A data processing apparatus according to claim 127, wherein said first processing resource is configured to store messages in accordance with their chronological order.

131. A data processing apparatus according to claim 127, said first processing resource being configured to transmit said instruction or message responsive to receiving a communication comprising sensitive information and to remove at least that part of said communication comprising said sensitive information from said first processing resource.

132. A data processing apparatus according claim 125, said instruction comprising a computer program procedure name.

133. A data processing apparatus according to claim 132, said predetermined criterion comprising said instruction or said computer program procedure being included in a predefined set of allowable instructions or computer program procedures for said second processing resource.

134. A data processing apparatus according to claim 132, said predetermined criterion comprising said instruction or said computer program procedure being identified as an allowable instruction or computer program procedure for said second processing resource.

135. A data processing apparatus, comprising:

a second processing resource in the form of a back end server that is configured to respond to an instruction received through a non-network connected communications channel from another processing resource in the form of a web server disposed in another data processing apparatus to execute only instructions satisfying a predetermined criterion.

136. A data processing apparatus according to claim 135, further comprising a database of executable instructions defining predetermined allowable functionality of said data processing apparatus.

137. A data processing apparatus according to claim 135, said instruction comprising a computer program procedure name.

138. A data processing apparatus according to claim 137, said predetermined criterion comprising said instruction or said computer program procedure being included in a predefined set of allowable instructions or computer program procedures for said second processing resource.

139. A data processing apparatus according to claim 137, said predetermined criterion comprising said instruction or computer program procedure being identified as an allowable instruction or computer program procedure for said second processing resource.

140. A method for operating a processing system including a first processing resource in the form of a web server coupleable to an open communications network and a second processing resource in the form of a back end server, the method comprising:

establishing a communications relationship between said first and second processing resource through a non-network connected communications channel whereby said second processing resource is restricted to implementing an instruction communicated

from said first processing resource which only performs a predetermined allowable operation, thereby inhibiting compromise of said second processing resource.

141. A method according to claim 140, said first processing resource transmitting said instruction to said second processing resource for said instruction satisfying a predetermined criterion.

142. A method according to claim 140, said first processing resource transmitting said instruction to said second processing resource, and said second processing resource executing said instruction only if said instruction satisfies a predetermined criterion.

143. A method according to claim 142, said predetermined criterion comprising said instruction being included in a predetermined set of allowable instructions for said second processing resource.

144. A method according to claim 141, said predetermined criterion comprising said instruction being identified as an allowable instruction by said second processing resource.

145. A method according to claim 142, further comprising said second processing resource transmitting an instruction fail message to said first processing resource responsive to said second processing resource determining said instruction failing to satisfy said predetermined criterion.

146. A method according to claim 140, said second processing resource comprising a database of executable instructions defining predetermined allowable functionality of said second processing resource.

147. A method according to claim 146, further comprising said second processing resource comparing said instruction with said database of executable instructions for determining whether said instruction is an allowable instruction.

148. A method according to claim 140, said instruction comprising a computer program procedure name.

149. A method according to claim 141, further comprising said second processing resource providing a reply message to said first processing resource responsive to said second processing resource determining that an instruction satisfies said predetermined criterion.

150. A method according to claim 140, further comprising said first processing resource storing said instruction in a queue prior to transmitting said instruction to said second processing resource.

151. A method according to claim 140, said first processing resource forming a message comprising said instruction and transmitting said message to said second processing resource.

152. A method according to claim 151, further comprising said first processing resource storing said message in a queue prior to transmitting said message to said processing resource.

153. A method according to claim 151, further comprising said first processing resource forming said message to include an action code indicative of an instruction type included in said message.

154. A method according to claim 153, further comprising said first processing resource storing said message in accordance with a priority assigned to said action code.

155. A method according to claim 151, further comprising said first processing resource storing said message in accordance with a chronological order.

156. A method according to claim 153, further comprising said first processing resource transmitting a message to said second processing resource in accordance with a priority determined by said action code of said message.

157. A method according to claim 151, further comprising said first processing resource transmitting said instruction or message in response to receiving a communication comprising sensitive information and discarding said sensitive information from said first processing resource.

158. A method according to claim 151, further comprising said first processing resource deriving sensitive information from a communication, and including said sensitive information in said message.

159. A method according to claim 158, further comprising said first processing resource discarding said sensitive information in response to a transmission of said message comprising said sensitive information to said second processing resource.

160. A method according to claim 158, further comprising said first processing resource discarding said sensitive information within a predetermined time period.

161. A method according to claim 160, wherein said time period is one of the following:
(1) less than 2 minutes from receipt of said communication, (2) less than 1 minute from

receipt of said communication or (3) the shortest time possible from receipt of said communication.

162-174. (Canceled)

175. A carrier medium comprising computer machine readable instructions, translatable for configuring a data processing apparatus or system to include or establish a communications relationship through a non-network connected communication channel between a first processing resource in the form of a web server coupleable to an open communications network and a second processing resource in the form of a back end server whereby said second processing resource is restricted to implementing an instruction communicated from said first processing resource which only performs a predetermined allowable operation, thereby inhibiting compromise of said second processing resource.

176. A carrier medium according to claim 175, further translatable for configuring said data processing apparatus or system to transmit said instruction from said first processing resource to said second processing resource for said instruction satisfying a predetermined criterion.

177. A carrier medium according to claim 175, further translatable for configuring said data processing apparatus or system to transmit said instruction from said first processing resource to said second processing resource, and said second processing resource executing said instruction only if said instruction satisfies a predetermined criterion.

178. A carrier medium according to claim 175, where said carrier medium comprises at least one of the following:

- a solid-state memory;

- a magnetic tape memory medium;

a magnetic disc; and

an optical storage medium.

179. (Cancelled)

180. A carrier medium comprising computer or machine readable instructions for configuring a data processing apparatus or system comprising a first processing resource in the form of a web server coupleable to an open communications network and a second processing resource in the form of a back end server to establish a communications relationship between said first and second processing resources through a non-network connected communication channel; and

to transmit an instruction from said first processing resource to said processing resource for said instruction satisfying a predetermined criterion, whereby said second processing resource is restricted to implementing an instruction, communicated from said first processing resource which only performs a predetermined allowable operation, thereby inhibiting compromise of said second processing resource.

181. A carrier medium as in claim 180, said second processing resource executing said instruction only if said instruction satisfies said predetermined criterion.

182. A carrier medium in accordance with claim 180, said carrier medium comprising at least one of the following:

a solid-state memory;

a magnetic tape memory medium;

a magnetic disc; and

an optical storage medium.

183. A data processing system according to claim 1, wherein the system is configured to operate in a command mode for transmitting commands from the second processing resource to the first processing resource.

184. A data processing system according to claim 117, said first processing resource being configured to discard said sensitive information within a predetermined time period.

185. A data processing system according to claim 184, wherein said time period is one of the following: (1) less than two minutes from receipt of said communication or (2) the shortest possible time from receipt of said communication.

186. A method according to claim 140, further comprising operating the processing system in a command mode for transmitting commands from the second processing resource to the first processing resource.

END OF CLAIMS